



Billing Code: 4150-31

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Office of the Secretary

Findings of Research Misconduct

AGENCY: Office of the Secretary, HHS.

ACTION: Notice.

SUMMARY: Notice is hereby given that the Office of Research Integrity (ORI) has taken final action in the following case:

Sinae Kim, Ph.D., Emory University: Based on the report of an investigation conducted by Emory University (EU) and additional analysis conducted by ORI in its oversight review, ORI found that Dr. Sinae Kim, former Postdoctoral Fellow, Department of Medicine, EU, engaged in research misconduct in research supported by National Heart, Lung, and Blood Institute (NHLBI), National Institutes of Health (NIH), grants R01 HL079137, R01 HL084471, and R03 HL096325, and National Institute of General Medical Sciences (NIGMS), NIH, grant RC1 GM092035.

FOR FURTHER INFORMATION CONTACT:

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SUPPLEMENTARY INFORMATION:

ORI found that the Respondent engaged in research misconduct by falsifying data that were included in five (5) manuscripts submitted in 2009 for publication to *Blood*, *Nature*, *Nature Biotechnology*, *Nature Medicine*, and *Science*, one (1) poster presented at the 2009 American Heart Association (AHA) meeting, four (4) laboratory meeting presentations, one (1) image file, three (3) funded NIH grants (RC1 GM092035, R01 HL079137, and R03 HL096325), and five (5) submitted NIH grant applications (RC1 HL100648-01, RC2 HL101600-01, RC4 HL106748-01, R01 HD067130-01, and U01 HL107444-01). The manuscripts submitted in 2009 were not accepted for publication.

Specifically, ORI finds that the Respondent knowingly and intentionally:

1. Falsified three (3) figures for immunocytochemistry and alkaline phosphatase (AP) staining images, karyotyping and real-time reverse transcription polymerase chain reaction (RT-PCR) results by using experimental results from her prior work in Korea with human embryonic stem cells (hESCs) to confirm the generation, differentiation, and verification of human induced pluripotent stem cells (iPSCs). The false data were included in:
 - a. Figures 1c and 2i (panels #4 & 13) in the *Nature* 2009, *Science* 2009, and *Nature Biotechnology* 2009 manuscripts and Supplementary Figure 4 in the *Nature* 2009 manuscript
 - b. Supplementary Figure 5 in the *Nature Biotechnology* 2009 manuscript

- c. Figures S1B and S1D (panels #4 & 13) in the *Blood* 2009 manuscript
 - d. Supplementary Figures 8B and 8D (panels #4 & 13) in the *Nature Medicine* 2009 manuscript
 - e. Figure 9 in the RC1 GM092035 grant
 - f. Figure 8 in the R01 HL079137 grant
 - g. Figure 2 in the RC1 HL100648 grant
 - h. Figure 8 in the RC2 HL101600 grant
 - i. Figure 3 in the R01 HD067130 grant
 - j. Figure 1 in the RC4 HL106748 grant
 - k. Figures 1C, 1H, and 1I (panel #3) in the R03 HL096325 grant
 - l. Figure 5 in the U01 HL107444 grant
 - m. Figures 2C and 3I (panels #4 & 13) in the poster presented at the 2009 AHA meeting
 - n. the presentations 'Figures_Sinae Kim_120808.ppt' and 'Figures_Sinae Kim_121508.ppt'
 - o. the image file 'HiPS_E1_x100.jpg'.
2. Falsified one (1) figure for the real-time RT-PCR data for endogenous SOX2 expression in human iPSCs derived from dermal (HiPS-E1) and cardiac (HiPS-E2) fibroblasts and iPSCs generated from peripheral blood mononuclear cells derived from coronary artery disease patients (HiPS-ECP1, HiPS-ECP2, and HiPS-ECP3) by substituting real-time RT-PCR data for endogenous OCT4 expression in the forementioned cell lines.

Specifically, the false data were included in:

- a. Figure 2i (panels #2 & 5) in the *Nature* 2009, *Science* 2009, and *Nature Biotechnology* 2009 manuscripts
 - b. Figure S1D (panels #2 & 5) in the *Blood* 2009 manuscript
 - c. Supplementary Figure 8D (panels #2 & 5) in the *Nature Medicine* 2009 manuscript
 - d. Figure 3I (panels #2 & 5) in the poster presented at the 2009 AHA meeting
 - e. the presentations ‘‘Figures_Sinae Kim_120808.ppt’ and ‘Figures_Sinae Kim_121508.ppt’.
3. Falsified data in two (2) PowerPoint presentations for RT-PCR data of osteogenic-specific gene expression in bone marrow cells by substituting data for RT-PCR data in primary bone-derived and Saos2-osteosarcoma cells.
 4. Falsified one (1) figure for the real-time RT-PCR data of OCT4, SOX2, KLF4, c-MYC, NANOG, hTERT, REX1, and GDF3 fold-change expression levels in H1 hESCs, human cardiac and dermal fibroblasts, HiPS-E1, HiPS-E2, HiPS-ECP1, HiPS-ECP2, and HiPS-ECP3 cell lines by substituting data from various other cell lines that did not exist.

Specifically, the false data were included in:

- a. Figures 2a-h in the *Nature* 2009, *Science* 2009, and *Nature Biotechnology* 2009 manuscripts
- b. Figure 10 in the RC1 GM092035 grant

- c. Figure 9 in the R01 HL079137 grant
 - d. Figure 5 in the R01 HD067130 grant
 - e. Figure 3A-H in the poster presented at the AHA meeting
 - f. the presentations ‘Figures_Sinae Kim_120808.ppt’ and ‘Figures_Sinae Kim_121508.ppt’.
5. Falsified research materials when the Respondent distributed cells to laboratory members that she claimed were chemical/non-viral factor induced-mouse iPSCs and human iPSCs generated from peripheral blood of coronary artery disease patients, when she knew they were of other origin.

Dr. Kim has entered into a Voluntary Exclusion Agreement (Agreement) and has voluntarily agreed for a period of two (2) years, beginning on June 5, 2012:

- (1) to exclude herself voluntarily from any contracting or subcontracting with any agency of the United States Government and from eligibility or involvement in nonprocurement programs of the United States Government referred to as “covered transactions” pursuant to HHS’ Implementation (2 CFR part 376, *et seq*) of OMB Guidelines to Agencies on Governmentwide Debarment and Suspension, 2 CFR part 180 (collectively the “Debarment Regulations”); and

- (2) to exclude herself from serving in any advisory capacity to PHS including, but not limited to, service on any PHS advisory committee, board, and/or peer review committee, or as a consultant.

John Dahlberg, Ph.D.
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Office of Research Integrity

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